Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the BioPreferred Program. This summary reflects data available as of July 9, 2007.

Title: Specialty Precision Cleaners & Solvents

Description: Solvents and cleaners used in specialty applications. These materials may be used in either neat solution, diluted with water, or in hand wiping applications.

Manufacturers Identified: 5 manufacturers producing Specialty Precision Cleaners & Solvents have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies producing Specialty Precision Cleaners & Solvents:

- Biobased Manufacturers Association
- United Soybean Board
- American Chemistry Council
- National Association of Manufacturers

Commercially Available Products Identified: Of the manufacturers identified, 7 Specialty Precision Cleaners & Solvents are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 2 Specialty Precision Cleaners & Solvents.

Industry Performance Standards: Product information submitted by biobased manufacturers indicate that have typically been tested to the following industry standards:

- ASTM F1110 Standard Test Method for Sandwich Corrosion Test
- ASTM F519 Standard Test Method for Mechanical Hydrogen Embrittlement Evaluation of Plating Processes and Service Environments

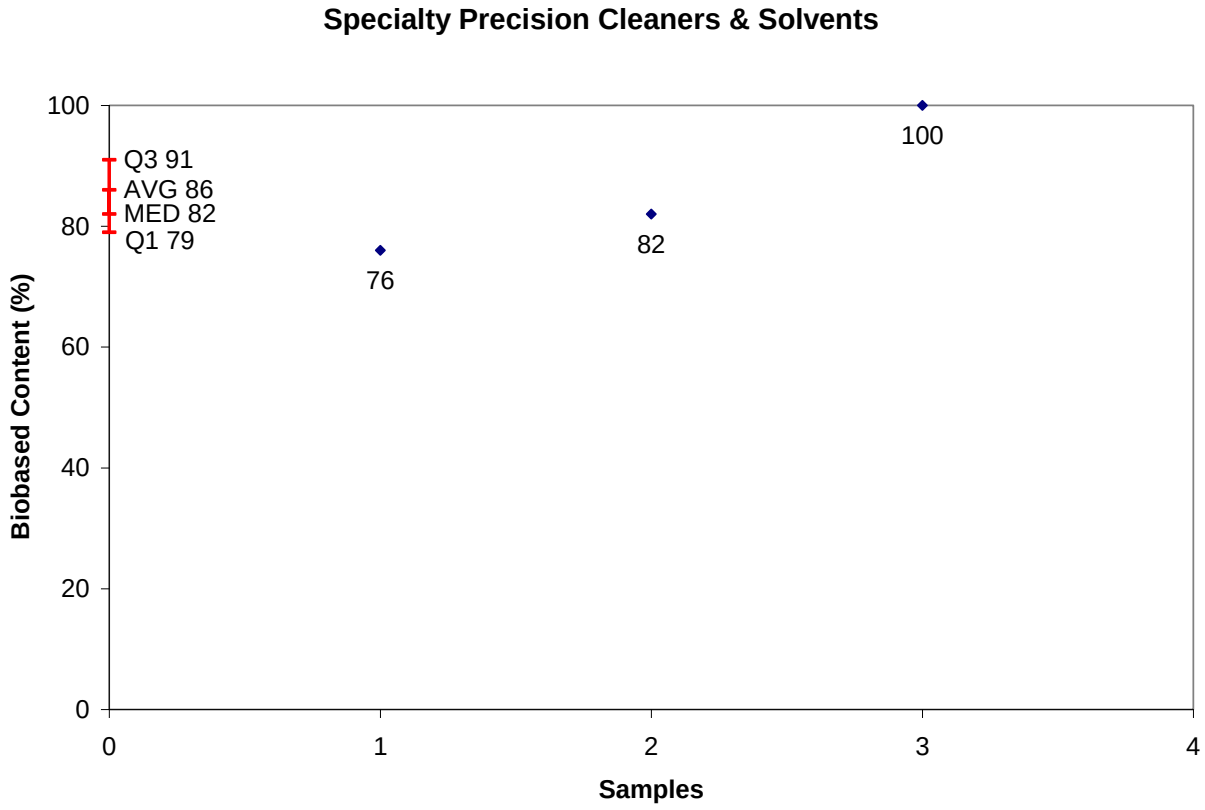
Samples Tested for Biobased Content: 3 samples of Specialty Precision Cleaners & Solvents have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866-04.

Biobased Content Data: Results from biobased content testing of Specialty Precision Cleaners & Solvents indicate a range of content percentages from 76% minimum to 100% maximum biobased content as defined by ASTM D 6866-04. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 1 Specialty Precision Cleaners & Solvents have been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle costs of the submitted Specialty Precision Cleaners & Solvents range from $32.22 minimum to $32.22 maximum per usage unit. The environmental scores range from 0.0350 minimum to 0.0350 maximum. A detailed summary of the BEES results is included as Appendix B.

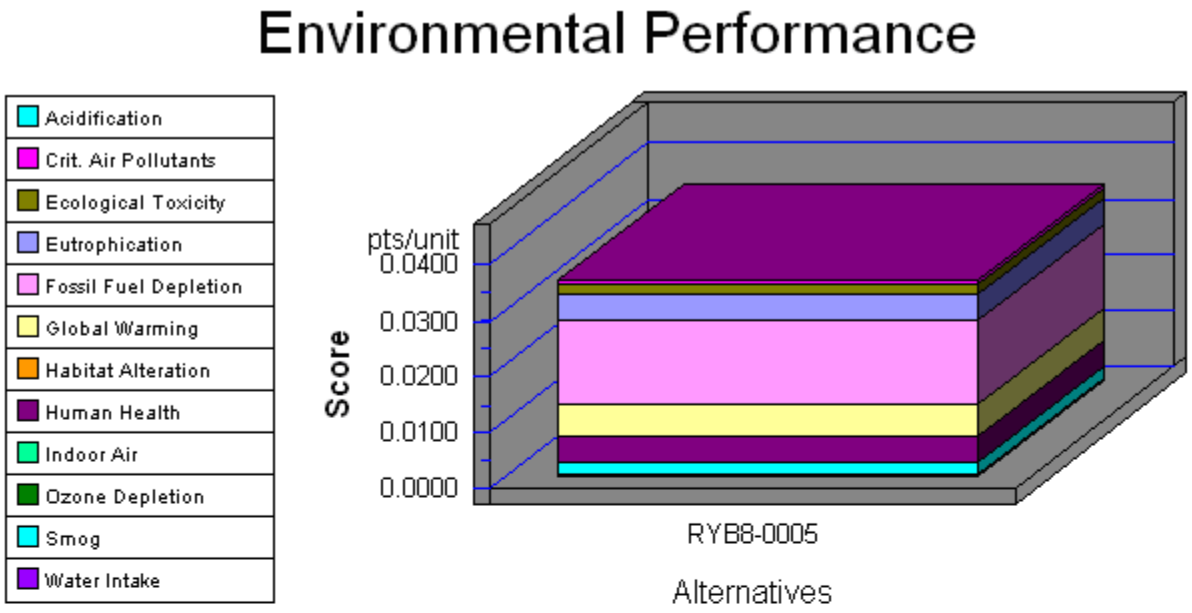
Appendix A - Biobased Content Data



	Manufacturers Identified	Products Identified	C14	BEES
1	RYB8	RYB8-0005	76	Yes
2	RYB8	RYB8-0001	82	
3	E676	E676-0001	100	

Appendix B - BEES Analysis Results

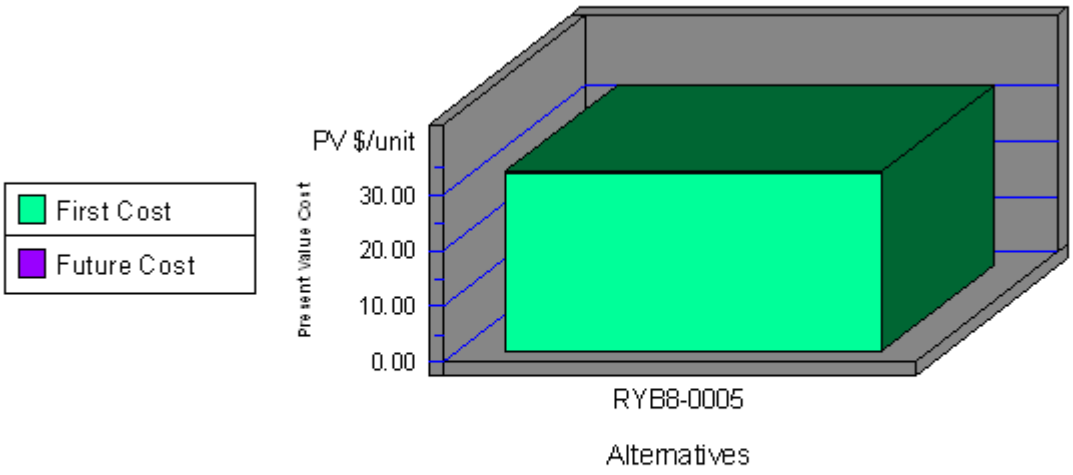
Functional Unit: 1 gallon of specialty precision cleaner/solvent



Note: Lower values are better

Category	RYB8-0005
Acidification--5%	0.0000
Crit. Air Pollutants--6%	0.0006
Ecolog. Toxicity--11%	0.0019
Eutrophication--5%	0.0046
Fossil Fuel Depl.--5%	0.0147
Global Warming--16%	0.0059
Habitat Alteration--16%	0.0000
Human Health--11%	0.0047
Indoor Air--11%	0.0000
Ozone Depletion--5%	0.0000
Smog--6%	0.0021
Water Intake--3%	0.0005
Sum	0.0350

Economic Performance



Category	RYB8-0005
First Cost	32.22
Future Cost-- 3.9%	0.00
Sum	32.22

Specialty Precision Cleaners and Solvents		
Impacts	Units	RYB8-0005
Acidification	millimoles H^+ equivalents	2.73E+03
Criteria Air Pollutants	microDALYs	1.97E+00
Ecological Toxicity	g 2,4-D equivalents	1.40E+01
Eutrophication	g N equivalents	1.76E+01
Fossil Fuel Depletion	MJ surplus energy	1.03E+02
Global Warming	g CO_2 equivalents	9.38E+03
Habitat Alteration	T&E count	0.00E+00
Human Health	g C_7H_8 equivalents	6.84E+04
Indoor Air Quality	g TVOCs	0.00E+00
Ozone Depletion	g CFC-11 equivalents	4.14E-06
Smog	g NO_x equivalents	5.26E+01
Water Intake	liters of water	8.52E+01
Functional Unit	----------	1 gallon of specialty cleaner/solvent

1 Following are more complete descriptions of units: Acidification: millimoles of hydrogen ion equivalents; Criteria Air Pollutants: micro Disability-Adjusted Life Years; Ecological Toxicity: grams of 2,4-dichlorophenoxy-acetic acid equivalents; Eutrophication: grams of nitrogen equivalents; Fossil Fuel Depletion: megajoules of surplus energy; Global Warming: grams of carbon dioxide equivalents; Habitat Alteration: threatened and engangered species count; Human Health: grams of toluene equivalents; Indoor Air Quality: grams of Total Volatile Organic Compounds; Ozone Depletion: grams of chloroflourocarbon-11 equivalents; Smog: grams of nitrogen oxide equivalents; and Water Intake: liters of water.